



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,506	02/04/2004	Yoshihiko Iijima	248528US0	1755
22850	7590	10/24/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER NGUYEN, SON T	
			ART UNIT 3643	PAPER NUMBER
			NOTIFICATION DATE 10/24/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

**Office Action Summary**

Application No.

10/770,506

Applicant(s)

IIJIMA ET AL.

Examiner

Son T. Nguyen

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18 and 23-52 is/are pending in the application.
- 4a) Of the above claim(s) 41-46 and 48-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18, 23-40, 47, 51, 52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

SON T. NGUYEN  
PRIMARY EXAMINER

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 18,23-40,47,51-52** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to describe the chemical structure of cinnamic acid.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 51** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The percent weight and the cinnamic acid have already been claimed in claim 40, therefore, it is unclear as to why Applicant is claiming these limitation again. In addition, "said aqueous buffer" lacks prior antecedent basis.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3643

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 18,23-26,28,47** are rejected under 35 U.S.C. 102(b) as being anticipated by Ferguson et al. (US 3157964).

For claim 18, Ferguson et al. teach a composition comprising cinnamic acid with the formulation as claimed (col. 3, lines 3,9-10,25,29-32); an aqueous medium (col. 1, line 72, col. 7, line 66 and throughout patent), wherein said composition contains an amount of cinnamic acid sufficient to regulate plant growth (the concentration as described by Ferguson throughout his patent for the cinnamic acid is sufficient to regulate growth by supplying enough moisture, resistance to bacteria, etc. as listed in col. 1, lines 10-14,59-69). Note that the formulation for cinnamic acid as claimed is the general formulation of cinnamic acid,  $C_9H_8O_2$ , starting out before mixed with other components. Thus, the cinnamic acid of Ferguson et al., before mixed with other components, has the same formulation as claimed by Applicant.

For claim 23, Ferguson et al. teach water (col. 7, line 66).

For claim 24, Ferguson et al. teach the aqueous medium comprises water (col. 7, line 66) and an organic solvent such as alcohol (col. 6, line 64).

For claims 25-26, Ferguson et al. teach carboxymethylcellulose as a dispersant in the composition (col. 4, line 70).

For claim 28, Ferguson et al. teach a polymer as a dispersant (col. 2, under "The Polymeric Constituent").

For claim 47, Ferguson et al. teach a plant growth regulator comprising cinnamic acid (col. 3, line 25).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al. as applied to claims 18,25 above, and further in view of Pierzynski et al. (6383128).

Ferguson is silent about employing a condensed phosphate as the preferred dispersant. Pierzynski et al. teach a condensed phosphate (col. 2, lines 12-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ condensed phosphate as taught by Pierzynski et al. as the preferred dispersant in Ferguson et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use ( for reducing the bioavailability of metal contaminants in soil) as a matter of obvious choice. In re Leshin, 125 USPQ 416.

9. **Claim 29-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al. as applied to claims 18,25 above, and further in view of Obrero et al. (4771571).

Ferguson et al. are silent about wherein said at least one dispersant comprises a non-ionic surfactant, an anionic surfactant, a cationic surfactant, or an amphoteric surfactant.

Art Unit: 3643

Obrero et al. teach in the same field of endeavor of plant treatment in which Obrero et al. employ a non-ionic surfactant, an anionic surfactant, a cationic surfactant, or an amphoteric surfactant (col. 2, lines 31-39) in order to inhibit the growth of microorganisms and to control microbial spoilage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a non-ionic surfactant, an anionic surfactant, a cationic surfactant, or an amphoteric surfactant as taught by Obrero et al. in the composition of Ferguson et al. in order to inhibit the growth of microorganisms and to control microbial spoilage.

10. **Claims 33-40,51,52** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al. (as above).

For claim 33, Ferguson et al. teach a solubilizer but are silent about at least one solubilizer which increases the solubility of cinnamic acid in an aqueous solution above 0.546 g/L. It would have been obvious to one having ordinary skill in the art at the time the invention was made to add the solubilizer of Ferguson et al. in an amount which will increase the solubility of cinnamic acid in an aqueous solution above 0.546 g/L, since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable ranges until the desired effect (to make the composition more potent) is achieved involves only routine skill in the art. In re Aller, 105 USPQ 233.

For claims 34-35, Ferguson et al. are silent about the concentration of the cinnamic acid being 25 weight % or less or above 0.546 g/L. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

Art Unit: 3643

have a concentration of the cinnamic acid being 25 weight % or less or above 0.546 g/L in the composition of Ferguson et al., since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable value/ranges for the concentration of cinnamic acid in the composition until the desired effect (to make the composition more potent) is achieved involves only routine skill in the art.

For claims 36-39, Ferguson et al. teach hydroxides (col. 5, lines 5-10).

For claims 40,51, Ferguson et al. teach a composition comprising cinnamic acid , a solubilizer and an aqueous solvent, wherein the cinnamic acid is dissolved in the aqueous solvent. However, Ferguson et al. are silent about 0.5 to 25 wt.% cinnamic acid , 35 to 300 wt.% of a solubilizer, such as tripolyphosphate salt, based on the weight of the cinnamic acid , and wherein the cinnamic acid is dissolved in the aqueous solvent in an amount that exceeds the maximum amount of cinnamic acid that can be dissolved in water at room temperature. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have 0.5 to 25 wt.% cinnamic acid , 35 to 300 wt.% of a solubilizer based on the weight of the cinnamic acid in the composition of Ferguson et al., since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable value/ranges for the concentration of cinnamic acid in the composition until the desired effect (to make the composition more potent) is achieved involves only routine skill in the art. In addition, It would have been obvious to one having ordinary skill in the art at the time the invention was made to select tripolyphosphate salt as the preferred

Art Unit: 3643

solubilizer in the composition of Ferguson, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious choice. See *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) and *In re Leshin*, 125 USPQ 416. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to dissolve the cinnamic acid in the aqueous solvent in an amount that exceeds the maximum amount of cinnamic acid that can be dissolved in water at room temperature in the composition of Ferguson et al., since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable value/ranges for the concentration of cinnamic acid in the composition until the desired effect is achieved involves only routine skill in the art.

For claim 52, Ferguson is silent about the monomeric cinnamic acid having an average diameter of 0.3  $\mu\text{m}$  or less. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a cinnamic acid monomer that is in particle form with an average diameter of 0.3  $\mu\text{m}$  or less in the composition of Ferguson, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use (easier to dissolve) as a matter of obvious choice. See *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) and *In re Leshin*, 125 USPQ 416.



***Response to Arguments***

11. Applicant's arguments filed 8/6/07 have been fully considered but they are not persuasive.

**Applicant repeatedly argued the difference between Applicant's cinnamic acid and Ferguson's cinnamic acid.**

As explained in the above rejection, all cinnamic acid starting out has the formulation  $C_9H_8O_2$ . Thus, the cinnamic acid of Ferguson has the same formulation. Applicant's invention is no different from Ferguson because Applicant's invention is not only cinnamic acid but cinnamic acid and other ingredients. The comparison of cinnamic acid, homopolymer and copolymerization with ethyl acrylate in Applicant's argument is really irrelevant to what is disclosed in Ferguson and what is being claimed. If Applicant review the claim language, all Applicant is claiming is cinnamic acid and water, especially with the language of "comprising". Nothing in these claims indicate the result of homopolymerization or copolymerization. Note that the claims are apparatus claims and not process of producing a product claims. Any composition that includes water and cinnamic acid would read on Applicant's claimed invention, especially with the comprising language, as in Ferguson. As Applicant argued in the interview on 7/23/07, the cinnamic acid of Ferguson "disappear" upon polymerization or the like. Disappear or not, cinnamic acid is or was once in the ingredients of the composition, thus, Ferguson teaches it. In addition, it is unclear how Applicant derived at this conclusion that the cinnamic acid in Ferguson disappear, since Applicant has not

Art Unit: 3643

provided any evidence of such occurrence, especially when Ferguson doesn't even stated so. It appears that it is a mere assumption on Applicant's part.

In conclusion, the Examiner is not persuaded by Applicant's argument and examples of how Ferguson's cinnamic acid is different from that of Applicant's. The examples provided by Applicant appear to be Applicant's own interpretation of Ferguson without any evidence that this is so, either from Ferguson himself or another expert in the chemical field. As mentioned above, disappear or not, the cinnamic acid is one ingredient making up the composition of Ferguson, thus, Ferguson does teach cinnamic acid. All other arguments have been addressed in previous actions, thus, please see previous actions.

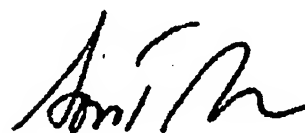
### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is 571-272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Son T Nguyen  
Primary Examiner  
AU 3643